

Gravatt, Dan

From: Gravatt, Dan
Sent: Tuesday, March 04, 2014 2:34 PM
To: Johnson, James; Field, Jeff
Subject: First draft of West Lake Action Memorandum
Attachments: Draft Action Memo for subsurface barrier.doc; State ARARs request letter for removal action memorandum.doc

James and I discussed how to approach the AM this morning and I've put together the attached draft. I've taken a "less is more" approach and left some key decisions un-made, with placeholders and questions embedded for the decision-makers to ponder. Also attaching a draft of the State ARAR request letter; not sure if Aaron S. is the proper addressee.

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Principles and integrity are expensive, but they are among the very few things worth having.

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ENFORCEMENT ACTION MEMORANDUM

SUBJECT: Request for a Time-Critical Removal Action at the West Lake Landfill Site, Bridgeton, Missouri

FROM: Jeff Field, Chief
Missouri-Kansas Branch

TO: Cecilia Tapia, Director
Superfund Division

CERCLIS ID:	MOD079900932
SSID:	0714
Removal Category:	Enforcement Time-Critical
Nationally Significant/Precedent-Setting:	Yes

I. PURPOSE

The purpose of this Action Memorandum is to request and document approval and funding for a time-critical removal action for the West Lake Landfill site in Bridgeton, St. Louis County, Missouri. The time-critical removal action will involve constructing a subsurface barrier to isolate a radiologically-contaminated landfill cell (Operable Unit 1, Area 1) from the adjacent Bridgeton Sanitary Landfill cell in which a subsurface oxidation event (SSE) is ongoing. This removal action is expected to be conducted by Republic Services (Republic), a [STATE] corporation. Republic Services is the owner and operator of the site.

This time-critical removal action is necessary to mitigate the potential future threat to public health or welfare or the environment posed by migration of the SSE from the Bridgeton Sanitary Landfill cell into the OU-1 Area 1 cell. The radiological wastes in OU-1 Area 1 are hazardous substances as defined by Section 101(14) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. § 9601(14), and are designated hazardous substances per 40 C.F.R. § 302.4(b).

There are nationally significant, precedent-setting issues associated with the Site. The Site is on the National Priorities List (NPL).

II. SITE CONDITIONS AND BACKGROUND

A. Site Description

1. Removal site evaluation

The Site was used agriculturally until a limestone quarrying and crushing operation began in 1939. The quarrying operation continued until 1988 and resulted in two quarry pits. Beginning in the early 1950s, portions of the quarried areas and adjacent areas were used for landfilling municipal refuse, industrial solid wastes, and construction/demolition debris. These operations were not subject to state permitting because they occurred prior to the formation of MDNR in 1974. Two landfill areas were radiologically contaminated in 1973 when they received soil mixed with leached barium sulfate residues. These two landfill areas constitute OU-1.

The barium sulfate residues, containing traces of uranium, thorium, and their long-lived daughter products, were some of the uranium ore processing residues initially stored by the Atomic Energy Commission (AEC) on a 21.7-acre tract of land in a then undeveloped area of north St. Louis County, now known as the St. Louis Airport Site (SLAPS), which is part of the St. Louis Formerly Utilized Sites Remedial Action Program managed by the U.S. Army Corps of Engineers (Corps). The radium and lead-bearing residues—known as K-65 residues—were stored in drums prior to being relocated to federal facilities in New York and Ohio.

In 1966 and 1967, the remaining residues from SLAPS were purchased by a private company for mineral recovery and placed in storage at a nearby facility on Latty Avenue under an AEC license. Most of the residues were shipped to Canon City, Colorado, for reprocessing except for the leached barium sulfate residues, which were the least valuable in terms of mineral content, i.e., most of the uranium and radium was removed in previous precipitation steps. Reportedly, 8,700 tons of leached barium sulfate residues were mixed with approximately 39,000 tons of soil and then transported to the Site. According to the landfill operator, the soil was used as cover for municipal refuse in routine landfill operations. The data collected during the Remedial Investigation (RI) are consistent with this account.

The quarry pits were used for permitted solid waste landfill operations beginning in 1979. In August 2005, the Bridgeton Sanitary Landfill (Former Active Sanitary Landfill) stopped receiving waste pursuant to an agreement with the city of St. Louis to reduce the potential for birds to interfere with airport operations.

EPA placed the Site on the Superfund National Priorities List (NPL) in 1990. The NPL is a list of priority sites promulgated pursuant to section 105 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended. The NPL is found in Appendix B of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP).

In 1993, EPA entered into an Administrative Order on Consent (AOC) with the potentially responsible parties (PRPs) for performance of the OU 1 RI/Feasibility Study (FS). Pursuant to the requirements of that order, the PRPs submitted for EPA's review and approval an RI which detailed the findings of extensive sampling and analysis on the area of OU 1 and the surrounding area. Following the RI, the PRPs submitted for EPA's review and approval an FS which evaluated the various remedial alternatives for OU 1 consistent with the requirements of the AOC and taking into account the requirements of CERCLA and the NCP. In addition, the state of Missouri was provided an opportunity for review and

comment on these documents. The Record of Decision (ROD) was signed in 2008 and selected capping in place as the remedial action for OU-1. This remedy has not yet been implemented.

In December 2010, Bridgeton Landfill detected changes in the landfill gas extraction system; specifically, elevated temperatures and elevated carbon monoxide levels. Further investigation indicated that the South Quarry Pit landfill was experiencing an exothermic subsurface smoldering reaction or event – an SSE. As a consequence of the SSE, the South Quarry Pit Landfill has experienced an increase in fugitive emissions and odors, elevated waste temperatures, and accelerated decomposition of the landfilled solid waste.

In May, 2013, the Missouri Attorney General and Republic signed an Order of Preliminary Injunction compelling Republic to take certain actions to address the SSE. One of the contingent response actions specified by that Order was to construct an “isolation break” between the North Quarry portion of the Bridgeton Sanitary Landfill and the adjacent OU-1 Area 1 cell. Republic agreed to construct this subsurface barrier and determined that the most appropriate location for the barrier included part of the OU-1 Area 1 cell not thought to contain radionuclides, based on available data from the RI. At this point, MDNR and EPA verbally agreed that EPA should take the lead agency role in overseeing the work to locate and install the subsurface barrier.

Commented [R71]: Was there ever a written agreement? I can't remember.

2. Physical location

The Site is on a parcel of approximately 200 acres located in the northwestern portion of the St. Louis metropolitan area. It is situated approximately one mile north of the intersection of Interstate 70 and Interstate 270 within the limits of the city of Bridgeton in northwestern St. Louis County. The Missouri River lies about two miles to the north and west of the Site. The Site is bounded on the north by St. Charles Rock Road and on the east by Taussig Road. Old St. Charles Rock Road borders the southern and western portions of the Site. The Earth City Industrial Park is adjacent to the Site on the west. The Spanish Village residential subdivision is located less than a mile to the south.

3. Site Characteristics

The Site consists of the Bridgeton Sanitary Landfill (Former Active Sanitary Landfill) and several inactive areas with sanitary and demolition fill that have been closed. The address of the Bridgeton Landfill is 13570 St. Charles Rock Road. The Site is divided into two operable units (OUs). OU 1 addresses two of the inactive landfill areas that are radiologically contaminated known as Area 1 and Area 2, and the area formerly described as the Ford Property, now the Buffer Zone / Crossroads Property. The other landfill areas that are not impacted by radionuclide contaminants are addressed by OU 2.

Other facilities which are not subject to this response action are located on the 200-acre parcel including concrete and asphalt batch plants, a solid waste transfer station, and an automobile repair shop.

4. Release or threatened release into the environment of a hazardous substance, or pollutant, or contaminant

As described above, EPA's Remedial Investigation of the Site has documented the presence radiological contamination in the wastes of the OU-1 Area 1 and 2 cells and the near-surface soils on these cells. The threat of continued releases remains until the hazardous substances have been controlled or removed.

Commented [R72]: I think this is standard language for an AM but it isn't really applicable to this situation. This (and related sections below) is where we need to be very specific about the reasons for doing the barrier, and whether or not the 8 criteria in 300.415 actually apply to the barrier's construction. It is not to address, remove or remediate any of the contamination!

5. National Priority List (NPL) status

The Site is listed on the National Priorities List.

6. Maps, pictures, and other graphic representations

Maps, pictures, and other graphic representations are included as Attachments to this Action Memorandum.

B. Other Actions to Date

1. Previous actions

There have been no previous removal or remedial actions taken at the Site. However, the Bridgeton Sanitary Landfill has been formally capped pursuant to the State of Missouri's solid waste landfill permit for that cell.

2. Current actions

On [DATE], the EPA issued a Unilateral Administrative Order (UAO) to Republic. This UAO, issued pursuant to [CITATIONS], ordered the Respondents to install the subsurface barrier between the North Quarry Landfill cell and the OU-1 Area 1 cell. Republic has indicated they are willing to, and capable of, performing the required work. Prior to issuance of the UAO, Republic began a detailed investigation of the proposed barrier alignment to determine if any radiological contamination exists there. This investigation is ongoing.

C. State and Local Authorities' Roles

1. State and local actions to date

As described above, MDNR has an extensive solid and hazardous waste history with the Site and Republic, particularly with administering and overseeing closure work on the Bridgeton Sanitary Landfill cell and responses to the SSE. MDNR has conducted inspections and has issued an order to the Respondents seeking to address Site conditions related to the SSE.

2. Potential for continued state/local response

State authorities have indicated that they wish to be involved in review of documents leading to construction of the barrier. As discussed above, the State has referred oversight of the barrier construction to EPA and has requested that EPA proceed with a removal action at the Site.

III. THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT AND STATUTORY AND REGULATORY AUTHORITIES

A. Threats to Public Health or Welfare

Where the EPA makes a determination, based on the factors set forth in 40 C.F.R. § 300.415(b)(2), that a release or threat of release of a hazardous substance, pollutant, or contaminant poses a threat to public health or welfare or the environment, EPA may take any appropriate removal action to abate, prevent, minimize, stabilize, mitigate, or eliminate the release or threat of release. The factors in 40 CFR § 300.415(b)(2) that apply to this Site are:

- **300.415(b)(2)(i) – Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances, or pollutants, or contaminants.**

The primary contaminants of concern at the Site are radiologically-contaminated landfill wastes. Should the SSE contact these wastes in the future, there is the potential for the radionuclides and their daughter products to migrate off-site. This presents a threat of releases of hazardous substances into the environment that could present unacceptable exposures to nearby human populations, animals, or the food chain. There are numerous businesses and some residences near the Site, and workers and residents who may be exposed.

- **300.415(b)(2)(vi) – Threat of fire or explosion.**

There is the possibility that if the subsurface barrier is not constructed, at some point in the future the SSE in the South Quarry Landfill cell could migrate into the North Quarry Landfill cell and thence into the adjacent OU-1 Area 1 cell containing radiologically-contaminated landfill wastes. Subjecting these wastes to the conditions of an SSE could increase the mobility of the radionuclides and potentially change their migration pathways.

- **300.415(b)(2)(vii) – The availability of other appropriate federal or state response mechanisms to respond to the release.**

MDNR has requested that the EPA oversee the construction of the subsurface barrier by Republic. There are no other known appropriate federal or state response mechanisms available to conduct an appropriate response at the Site.

IV. ENDANGERMENT DETERMINATION

The actual release or threatened release of hazardous substances at and from the Site, if not addressed by implementing the response action selected in this Action Memorandum, may present an imminent and substantial endangerment to public health, or welfare, or the environment.

V. PROPOSED ACTIONS AND ESTIMATED COSTS

A. Proposed Actions

Commented [R73]: Not sure how to write this; this is the standard language, though. I'm pretty sure that in the past we have not said "imminent and substantial".

1. Proposed action description

The proposed action will include the construction by Republic of the subsurface barrier in an area between the North Quarry Landfill cell and the OU-1 Area 1 cell that extensive, ongoing testing has shown to be free of radiological contamination above the cleanup standards specified in the Supplemental Feasibility Study (EPA, 2011). The purpose of this barrier is to prevent heat, liquids, and gases generated by the SSE from entering the OU-1 Area 1 cell and potentially propagating the SSE into that cell. The location of the barrier has not yet been finalized and will likely be partly in non-radiological areas of OU-1 Area 1 and partly in the North Quarry Landfill cell. The composition of and construction methods for the barrier have not yet been finalized. Transportation, treatment, storage, and disposal of hazardous substances will be in accordance with all applicable local, state, and federal requirements. Off-Site disposal will comply with Section 121(d)(3) of CERCLA and 40 C.F.R. § 300.440.

2. Health consultation and threshold concentration discussion

The remedial investigation conducted by the EPA has confirmed the presence of hazardous substances within the OU-1 landfill cells at the Site. While exposure pathways to these substances are currently incomplete, migration of the SSE into the OU-1 Area 1 cell may present an imminent and substantial endangerment to the public health, or welfare, or the environment.

Commented [R74]: Again, not sure how to write this.

3. Contribution to remedial performance

The remedial action for OU-1 selected in the 2008 ROD is not contingent on the performance of this removal action. In addition, the ROD-selected remedy is currently under additional review and could potentially change. Performance of this removal action would not in any way adversely affect or prevent implementation of any future remedial actions for the Site.

4. Description of alternative technologies

Implementation of the barrier is the required alternative under the Missouri Attorney General's Order with Republic. No alternatives were proposed. The specific technologies used to construct the barrier are not yet determined.

5. Applicable or Relevant and Appropriate Requirements (ARARs)

Federal

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) at 40 C.F.R. § 300.415(j) provides that removal actions shall, to the extent practicable considering the exigencies of the situation, attain ARARs under federal environmental or state environmental or facility siting laws. The following ARARs have been identified for this removal action:

Commented [R75]: These are all probably correct for West Lake; probably need more for the rad-specific issues.

Action/Prerequisite	Requirement	Citation
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Identification of hazardous waste	Definition and identification of hazardous waste	40 C.F.R. Part 261
Hazardous materials transportation	Identification of requirements for transporting potential hazardous materials	40 C.F.R. Parts 171-179
Standards applicable to generators of hazardous waste	Manifesting, pre-transport, record keeping	40 C.F.R. Part 262
Occupational Health and Safety Act Standards	Worker protection	29 C.F.R. Part 1910
Hazardous Materials Transportation Act	Transportation	49 U.S.C. §§ 801 – 1813, 49 C.F.R. Parts 171 - 179

State

A letter requesting that the State identify ARARs for this Site will be sent. Appropriate State-identified ARARs will be incorporated into the proposed action upon receipt of the State's response.

6. Project schedule

It is expected that this removal action may begin within thirty (30) days of approval of the Republic's subsurface barrier design documents, which have not yet been submitted to EPA as the investigation work for selecting the barrier alignment is still ongoing. The field work is expected to take [GUESSTIMATE] to complete.

B. Estimated Costs

This removal action is expected to be conducted and funded by Republic. The EPA expects there to be costs to oversee the PRPs' actions at the Site, as the UAO does not provide for the reimbursement of EPA's oversight costs. The total EPA costs for this removal action based on full cost-accounting practices are estimated to be \$30,000.

VI. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

Delayed action could potentially result in a future threat to public health or welfare or the environment.

VII. OUTSTANDING POLICY ISSUES

Commented [R76]: Not having seen David's draft AOC, I strongly suspect it will allow for reimbursement of our oversight costs. Thus, do we need to specify a dollar amount here? If we do, I have no way to accurately estimate it especially now that USACE is being brought in.

Nationally-significant, precedent-setting issues related to the SFS, SSFS, NRRB, FUSRAP, etc...

VIII. ENFORCEMENT

See attached Enforcement Addendum. [HOEFER TO WRITE]

IX. RECOMMENDATION

This decision document represents the selected removal action for addressing the potential future threat of the SSE to the radiologically-contaminated wastes in the OU-1 1 Area 1 landfill cell at the Site. The removal action was developed in accordance with CERCLA, as amended, and is not inconsistent with the NCP. This decision is based on the Administrative Record for the Site.

Conditions at the Site meet the NCP § 300.415(b)(2) criteria for a removal action, and I recommend your approval of this proposed removal action. The total EPA costs to oversee this response action are estimated to be [GUESSTIMATE].

Approved:

Cecilia Tapia, Director
Superfund Division

Date

Attachments:

1. Site Location Map
2. Photograph

Commented [R77]: No AR for the removal action established yet.

Mr. Aaron Schmidt
Missouri Department of Natural Resources
Hazardous Waste Program
P.O. Box 176
Jefferson City, MO 65102

Re: Subsurface Barrier Installation at the West Lake Landfill Site, Bridgeton, Missouri

Dear Mr. Schmidt:

As you may be aware, the Superfund removal program of the U.S. Environmental Protection Agency (EPA) is expecting to begin oversight of a removal action by the responsible parties for the subsurface barrier at the West Lake Landfill, site in Bridgeton, Missouri. To perform this action, EPA will attempt to comply, to the extent practicable, with all applicable or relevant and appropriate state requirements (ARARs) listed or new ones that you may supply us. This letter formally requests that the State of Missouri identify any potential ARARs for this site. An action memorandum has been drafted for this site and a copy is enclosed.

We request that an appropriate state official identify potential ARARs in the enclosed tables. To qualify as state ARARs, these requirements must be promulgated. A state requirement is promulgated if it is legally enforceable and of general applicability.

The tables are divided into three sections addressing the following categories: chemical-specific requirements, location-specific requirements, and action-specific requirements. Chemical-specific requirements are health- or risk-based numeric values that establish the acceptable amount or concentration of a chemical that may be found in or discharged to the ambient environment. Location-specific requirements are restrictions placed on the concentration of hazardous substances or the conduct of activities solely because they occur in special locations. For example, a location-specific requirement demands that hazardous waste storage facilities, if located within 100-year flood plains, must be designed, constructed, operated, and maintained in a manner that avoids washout. Action-specific requirements are technology- or activity-based requirements or limitations on actions taken with respect to hazardous waste.

Any state policies or guidance will be considered, even if they are not ARARs. EPA will examine your responses to determine whether they are applicable or relevant and appropriate to the site to the extent practicable. It is important to clarify, however, that all potential state ARARs identified in the tables may not be met during the removal.

Your timely response will ensure that Missouri requirements will be considered when conducting the removal action. EPA requests that all information concerning state ARARs be received in writing within 30 days of the date of this letter. Also, please feel free to contact Dan Gravatt, Remedial Project Manager, at (913) 551-7324, or me at (913) 551-7548, if additional information on the site is needed for the purpose of completing the enclosures.

Sincerely,

Jeff Field, Chief
Missouri-Kansas Branch
Superfund Division

Enclosures

MOKS
Gravatt

MOKS
Field

Potential
State ARARs

TABLE 1: CHEMICAL-SPECIFIC REQUIREMENTS

Chemical	Maximum Concentration Allowed	Medium	Reason Why Requirement is an ARAR	Regulatory Citation

Potential
State ARARs

TABLE 2: LOCATION-SPECIFIC REQUIREMENTS

Location Subject to Requirement	Requirement	Reason Why Requirement is an ARAR	Regulatory Citation

Potential
State ARARs

TABLE 3: ACTION-SPECIFIC REQUIREMENTS

Action Subject to Requirement	Requirement	Reason Why Requirement is an ARAR	Regulatory Citation